

CLAIMS

1. A method for processing first and second video signals respectively
5 exhibiting first and second dissimilar image formats, comprising the step of
detecting the presence of said first or second video signal, and further
comprising the steps of:
- A. when said first video signal is detected,
10 (a) converting said first video signal to a different format, to
produce a converted signal;
(b) filtering said converted signal to produce a filtered signal;
(c) reconvertng said filtered signal to the original format of said
first signal, to produce a reconverted signal;
15 (d) converting said reconverted signal to a lower resolution to
produce a lower resolution signal;
(e) encoding said lower resolution signal to produce an encoded
signal; and
(f) conveying said encode signal to an output channel; and
20 B. when said second video signal is detected,
(g) filtering said second video signal to produce a filtered signal;
(h) converting said filtered signal to a lower resolution to produce
a lower resolution signal;
(i) encoding said lower resolution signal to produce an encoded
25 signal; and
(j) conveying said encode signal to an output channel.
2. The method of claim 1, wherein:
said first video signal is an interlaced scan signal, and said interlaced scan
30 signal is converted to a progressive scan signal in step (a).
3. The method of claim 1, wherein:
said first video signal is a telecined film signal, and said telecined film
signal is converted to de-telecined signal in step (a).
- 35 4. The method of claim 1, wherein:
said second video signal is a progressive scan signal.
5. The method of claim 1, wherein:
40 said filtering steps provide low-pass filtering.

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6. The method of claim 5, wherein:
said filtering steps provide two-dimensional filtering.

7. The method of claim 1, wherein:
said filtering steps provide adaptive filtering adjusted to one of a group of
picture frames, a single frame, and a part of a frame.

8. The method of claim 1, wherein:
said filtering steps provide temporally low-pass filtering and adaptively
change filtering characteristics in response to characteristics of said signal.

9. The method of claim 1, wherein:
said filtering steps provide spatially low-pass filtering and adaptively
change filtering characteristics in response to characteristics of said signal.

10. The method of claim 1, wherein:
said encoding steps are MPEG2 compatible.

11. The method of claim 1, wherein:
said lower resolution signal has a resolution of 1280 by 1080 data
samples per frame.

12. The method of claim 1, wherein:
said first and second video signals are high definition signals having a
resolution of 1920 by 1080 data samples per frame.

13. A method for processing one of an interlaced scan video signal and
a telecined film format signal, comprising the steps of:
detecting the presence of one of said interlaced scan video signal and said
telecined film signal,
converting said detected signal to one of a progressive scan signal and a
de-telecined signal, respectively, to produce a converted signal;
filtering said converted signal to produce a filtered signal;
reconverting said filtered signal to one of an interlaced scan signal and a
telecined signal, respectively, to produce a reconverted signal;
converting said reconverted signal to a lower resolution to produce a lower
resolution signal;
encoding said lower resolution signal to produce an encoded signal; and
conveying said encoded signal to an output channel.

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14. The method of claim 13, wherein:
said filtering step is low-pass filtering, and said encoding step is MPEG2
encoding.

5 15. The method of claim 13, wherein:
said lower resolution signal has a resolution of 1280 by 1080 data
samples per frame.

10 *Sub A* 16. A method for processing a non-telecined progressive scan video
signal, comprising the steps of
B adaptively filtering said detected signal to produce a filtered signal;
converting said filtered signal to a lower resolution to produce a lower
resolution signal;
MPEG encoding said lower resolution signal to produce an encoded signal;
15 and
conveying said encoded signal to an output channel.

20 17. The method of claim 16, wherein:
said filtering step is low-pass filtering, and said encoding step is MPEG2
encoding.

25 18. A method for processing a non-telecined progressive scan video
signal, comprising the steps of
filtering said detected signal to produce a filtered signal;
converting said filtered signal to a lower resolution to produce a lower
resolution signal having a resolution of 1280 x 1080 samples per frame;
encoding said lower resolution signal to produce an encoded signal; and
conveying said encoded signal to an output channel.

30 19. In a high definition video signal processing system, a method for
processing a received digital video signal subject to exhibiting more than one
image resolution, including a resolution of 1280 by 1080 data samples per
frame, comprising the steps:
decoding said signal to produce a decoded signal;
35 determining the image resolution of said decoded signal;

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converting horizontal information from said decoded signal to a different resolution if said decoded signal has a horizontal image resolution of 1280 samples per line, to produce a converted signal; and conveying said converted signal to an output device.

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20. The method of claim 19, wherein:
said conversion is up-conversion, and said different resolution is 1920 horizontal samples per line.

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21. The method of claim 19 wherein:
said conversion is down-conversion, and said different resolution is a lower resolution.

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22. The method of claim 19, wherein:
said received digital video signal is MPEG2 compatible.

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23. A method according to claim 16, wherein
said adaptive filtering is independent of signal subsampling by said converting step.

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24. A method according to claim 16, wherein
said adaptive filtering is a function of image signal parameters prior to filtering.

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25. A method according to claim 16, wherein
said method including said adaptive filtering step through said conveying step operates with respect to a fixed image frame format.

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26. A method according to claim 16, wherein
said adaptive filtering is adaptive within an image frame.

27. A method according to claim 26, wherein
said adaptive filtering is performed on a pixel-by-pixel basis.

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28. A signal format for conveying video information, said format being defined by 1280 picture elements by 1080 picture elements.

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29. A signal format according to claim 28, wherein
said 1280 picture elements represent horizontal information, and
said 1080 picture elements represent vertical information.

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30. A signal format according to claim 28, wherein said video information is broadcast satellite information.

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